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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,909	02/25/2000	Keith Russell Edwards	476-1568.1	7736

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EXAMINER
NGUYEN, HUY D

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/512,909	Applicant(s) EDWARDS ET AL.	
	Examiner Huy D Nguyen	Art Unit 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. *08955862* .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 23-24, 26-27, 29-30, 39-41, 43-44, 52-55 are rejected under the judicially created doctrine of double patenting over claims 1, 4, 7 of U. S. Patent No. 5,848,361 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent. The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: both are claiming an arrangement comprising a plurality of antennas, signal processing means, switching means and an output, wherein the antennas are operable to receive a signal from a signal source; wherein, in use, the carrier to noise ratio is determined by the signal processing means for the antenna receiving the strongest signal from the signal source and that the strongest received signal is switched from the signal processing means to the output; wherein the carrier to noise ratio is also determined by the signal processing means for the signals received by the other antennas, wherein those signals received by the other antennas which

contribute positively to the overall system carrier to noise ratio are also switched from the signal processing means to the output.

Claims 25, 28, 34-35, 37, 42, 48-49, 51 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 7 of U.S. Patent No. 5,848,361 in view of Dean et al. (U.S. Patent No. 5,533,011).

Regarding claim 25, U.S. Patent No. 5,848,361 does not disclose delay elements arranged to time delay signals received by antennae. Dean et al. provide each antenna except one at each node a delay (see FIG. 3; Col. 9, lines 46-49). It would have been obvious to one of ordinary skill in the art at time the invention was make to have those delay elements since they would help provide time diversity as disclosed in Dean et al.

Regarding claims 28, 42, U.S. Patent No. 5,848,361 does not disclose that the receiver arrangement uses CDMA technique. Dean et al. teach a system using CDMA technique (see Col. 1, lines 56-58). It would have been obvious to one of ordinary skill in the art at time the invention was make to use CDMA technique as disclosed in Dean et al. since it gives higher spectral efficiency than other techniques.

Regarding claims 34, 37, 48, 51, U.S. Patent No. 5,848,361 does not include rake receiver. Dean et al. provide rake receiver (Col. 8, lines 34-36). It would have been obvious to one of ordinary skill in the art at time the invention was make to include rake receiver as disclosed in Dean et al. since it would help improve the receive system gain and to reduce the effect of fading.

Regarding claims 35, 49, U.S. Patent No. 5,848,361 does not teach that the delay means operable to delay the n signals with respect to each other by a period T corresponding to the chip

rate of a spread spectrum transmission scheme. Dean et al. teach that the difference in path delays should exceed the PN chip duration, i.e. 1/bandwidth (Col. 2, lines 36-49; Col. 9, lines 25-35). It would have been obvious to one of ordinary skill in the art at time the invention was make to make the delay period T > the chip duration as disclosed in Dean et al. since that would help improve the receive system gain and to reduce the effect of fading.

Claims 33, 47 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 7 of U.S. Patent No. 5,848,361 in view of Okada et al. (U.S. Patent No. 5,526,398).

Regarding claims 33, 47, U.S. Patent No. 5,848,361 does not disclose that hysteresis is employed to control the switching. Okada et al. teach the use of hysteresis to control the switching (see Col. 6, lines 11-14). It would have been obvious to one of ordinary skill in the art at time the invention was make to employ hysteresis as disclosed in Okada et al. since it would help prevent rapid switching.

Claims 31-32, 45-46 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 7 of U.S. Patent No. 5,848,361 in view of Lee (U.S. Patent No. 5,818,543).

Regarding claims 31, 45 U.S. Patent No. 5,848,361 does not disclose the use of polarisation diversity. Lee discloses that in spatial diversity systems, two antennae are positioned apart with the intent that the reflected signals at the antenna locations will not cancel the desired signal at the same time. It would have been obvious to use polarisation diversity to differentiate

signals as disclosed by Lee(see Col. 1, lines 53-55) since such method would improve the receive system gain and to reduce the effect of fading.

Regarding claims 32, 46, U.S. Patent No. 5,848,361 does not disclose the use of both spatial and polarisation diversity. Lee teaches that in spatial diversity systems, two antennae are positioned apart with the intent that the reflected signals at the antenna locations will not cancel the desired signal at the same time. In polarity diversity systems, both horizontally and vertically polarized antennae are used with switching between the two for the better signal. It would have been obvious to use both spatial and polarisation diversity to differentiate signals as disclosed by Lee(see Col. 1, lines 53-58) since such technique would provide diversity gain.

Claims 36, 50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 7 of U.S. Patent No. 5,848,361 in view of Nagashima (U.S. Patent No. 5,740,204).

Regarding claims 36, 50, U.S. Patent No. 5,848,361 does not teach the use of MLSE technique. Nagashima provides MLSE demodulation techniques (Col. 1, lines 29-34). It would have been obvious to one of ordinary skill in the art at time the invention was make to use MLSE technique as disclosed in Nagashima since it would help improve bit error rate.

Conclusion

2. Applicant's arguments with respect to claims 23-55 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy D Nguyen whose telephone number is 703-305-3283. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Hunter can be reached on 703-308-6732. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-6750.

HN
February 10, 2003

2/10/03